



DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
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OPNAVINST 9220.2C
N95
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OPNAV INSTRUCTION 9220.2C

From: Chief of Naval Operations

Subj: U.S. NAVY BOILER WATER AND FEEDWATER TEST AND TREATMENT
PROGRAM (NUCLEAR EXCLUDED)

Ref: (a) Naval Sea Systems Command Naval Ships' Technical Manual
S9086-GX-STM-020/220, Boiler Water/Feedwater Test and Treatment
Rev 14 of 21 Dec 2018 (NOTAL)

1. Purpose

a. To establish training and certification requirements for personnel involved with the test and treatment of boiler water and feedwater for non-nuclear steam generators on U.S. Navy vessels.

b. To establish responsibilities of U.S. Navy commands with respect to the test and treatment of boiler water and feedwater for non-nuclear steam generators on U.S. Navy vessels.

c. This revision includes updated requirements for recertification; updated prerequisites for all boiler water and feedwater courses; added requirements for qualification and designation of ship's oil king; added requirements regarding certification and recertification records; removal of auxiliary boiler content; and updated required actions for Naval Surface Warfare Center, Philadelphia Division and Surface Warfare Officers School Command (SWOSCOLCOM), Newport, Rhode Island. This instruction is a complete revision and should be reviewed in its entirety.

2. Cancellation. OPNAVINST 9220.2B.

3. Discussion. Continued high reliability of non-nuclear steam generators requires strict adherence to specified boiler water and feedwater controls. Training and qualification of personnel assigned to water chemistry duties requires vigorous and disciplined application; safe and precise control in the use of chemicals; effective shipboard administrative controls; and a monitoring system that ensures aggressive compliance with all phases of the program.

4. Applicability. This instruction applies to all personnel and commands responsible for the training, qualification, maintenance, and management of the Boiler Water and Feedwater Test and Treatment Program associated with main propulsion or waste heat boilers on non-nuclear ships. It also applies to all commands that manage components of the Boiler Water and Feedwater Test and Treatment Program including engineering, training, and logistical support.

5. Policy. Improvement of water chemistry maintenance in conventional steam propulsion ships and in ships equipped with waste heat boilers can be achieved only by compliance with high standards at the shipboard level. Satisfactory water chemistry maintenance through diligent effort by properly trained personnel using approved procedures and specified chemicals is the goal of the U.S. Navy Boiler Water and Feedwater Test and Treatment Program.

a. Qualification. Only personnel holding a current certification obtained through successful completion of applicable boiler water and feedwater test and treatment certification courses are authorized to test and treat boiler water and feedwater; and manage the boiler water and feedwater program in conventional steam propulsion plants and waste heat boilers. In addition, engineering officer of the watch (EOOW), ship's oil king, and oil king assistant watchstanders (in-port and underway) must be qualified per the applicable personnel qualification standards (PQS) program.

b. Certification Requirements. All personnel who are required in the course of their duties to test, treat, or manage the boiler water and feedwater program must be certified by completing the applicable courses of this instruction as specified in subparagraph 5d. All certifications are valid for the duration of sea duty with the exception of the Boiler Water and Feedwater Chelant Basic Certification Course (A-651-0019), which is required to be taken only once during a career. Once a qualified sailor transfers to shore duty, he or she must recertify prior to assuming duties afloat, as specified in subparagraph 5a. All officers and senior enlisted personnel (E-6 to E-9) who are responsible for management and proper performance of the Boiler Water and Feedwater Test and Treatment Program must hold current certifications for their ship-specific boiler prior to reporting aboard ship. Ship oil kings and oil king assistant watchstanders must hold current certification(s) for their ship-specific boiler type. Shore-based steam generating plant inspectors are required to attend the Boiler Water and Feedwater Test and Treatment Chelant Supervisor Course (A-651-0116) every 36 months for refresher training.

c. Prerequisites

(1) Boiler Water and Feedwater Chelant Basic Certification Course (A-651-0019)

(a) Must be an E-3 or above who has completed the water chemistry portions of water king or oil king PQS for propulsion boilers; or

(b) Must be a final EOOW candidate for qualification who has completed the fundamentals of the EOOW PQS; or

(c) Must be a commissioned officer.

(2) Boiler Water and Feedwater Test and Treatment Chelant Supervisor Course (A-651-0116)

(a) Must be an E-4 or above and a graduate of the Boiler Water and Feedwater Chelant Basic Certification Course (A-651-0019); or

(b) Must be a commissioned officer and graduate of the Boiler Water and Feedwater Chelant Basic Certification Course (A-651-0019); or

(c) Must be a final candidate for EOOW qualification who has completed the fundamentals of the EOOW PQS.

(3) Waste Heat Boiler Water and Feedwater Test and Treatment Certification Course (A-652-0188)

(a) Must be an E-3 or above who has completed the water chemistry portions of the water king or oil king PQS for waste heat boilers. Additionally, should have 6 months of experience in the operation and maintenance of waste heat boilers; or

(b) Must be a final EOOW candidate for qualification who has completed the fundamentals of the EOOW PQS; or

(c) Must be a commissioned officer.

d. Training Requirements

(1) Conventional Steam Propulsion Ships

(a) All officers and senior enlisted personnel (E-6 to E-9) who are responsible for management and proper performance of the U.S. Navy Boiler Water and Feedwater Test and Treatment Program must be a graduate of the Boiler Water and Feedwater Test and Treatment Chelant Supervisor Course (A-651-0116). As a minimum requirement, this must include the engineer officer, main propulsion assistant, division officers responsible for the boiler(s), EOOW, and ship's oil king.

(b) The ship's oil king must be a senior (E-6 to E-9) machinist's mate designated by a letter signed by the commanding officer (CO). The oil king is the primary operator, tester, and record keeper for all actions relating to fuels and boiler water and feedwater testing and treatment and must be a graduate of the Boiler Water and Feedwater Test and Treatment Chelant Basic Certification Course (A-651-0019); the Boiler Water and Feedwater Test and Treatment Chelant Supervisor Course (A-651-0116); and all required fuel testing courses. The ship's force steam generating plant inspector must serve as the boiler water and feedwater program manager.

(c) All enlisted personnel assigned as oil king assistant watchstanders who test or treat boiler water and feedwater, or make treatment recommendations under supervision, must complete the Boiler Water and Feedwater Chelant Basic Certification Course (A-651-0019) as a minimum requirement.

(2) Non-Steam Propulsion Ships Equipped with Waste Heat Boilers

(a) All officers and senior enlisted personnel (E-6 to E-9) who are responsible for management and proper performance of the Boiler Water and Feedwater Test and Treatment Program must complete the Waste Heat Boiler Water and Feedwater Test and Treatment Certification Course (A-652-0188). As a minimum requirement, this must include the engineer officer, main propulsion assistant, division officers responsible for the boiler(s), EOOW, and ship's oil king.

(b) The ship's oil king must be a senior petty officer (E-6 to E-9) in a machinery rating (e.g., machinist's mate, gas turbine systems technician mechanic, or engineman) designated by a letter signed by the CO. The oil king is the primary operator, tester, and record keeper for all actions relating to fuels, boiler water and feedwater testing and treatment, and must complete the Waste Heat Boiler Water and Feedwater Test and Treatment Certification Course (A-652-0188), and all required fuel testing courses.

(c) All enlisted personnel assigned as oil king assistant watchstanders who test or treat boiler water and feedwater, or make treatment recommendations under supervision, must complete the Waste Heat Boiler Water and Feedwater Test and Treatment Certification Course (A-652-0188) as a minimum requirement.

6. Certification and Recertification Records

a. Individuals who successfully complete a course supporting the U.S. Navy Boiler Water and Feedwater Test and Treatment Program will be issued a completion certificate by the authorized learning site and training support site. Certification will remain valid as outlined in subparagraph 5b.

b. Appropriate service record entries must be made upon successful completion of Boiler Water and Feedwater Test and Treatment courses.

c. A copy of current certificates for personnel aboard with a boiler water and feedwater certification must be maintained in the oil lab.

7. Action

a. Naval Surface Warfare Center, Philadelphia Division, as the designated life cycle engineering manager, will:

(1) specify treatment and testing methods and procedures for naval propulsion boilers and waste heat boilers as approved by the Commander, Naval Sea Systems Command (COMNAVSEASYSKOM) boiler technical warrant holder.

(2) conduct technical audits of courses supporting the U.S. Navy Boiler Water and Feedwater Test and Treatment Program at a period not to exceed 3 years, or when overarching guidance is revised to ensure technical accuracy and relevancy. Conduct audits per the COMNAVSEASYSKOM Technical Training Audit Program in coordination with SWOSCOLCOM, Newport, Rhode Island.

(3) develop in-service training for boiler water and feedwater test and treatment instructors and coordinate delivery with SWOSCOLCOM, Newport, Rhode Island.

(a) Develop and maintain job qualification requirements for boiler water and feedwater test and treatment instructors.

(b) Coordinate with local steam generating plant inspectors to implement the job qualification requirements.

(4) conduct periodic audits of supply activities responsible for providing test and treatment chemicals to fleet units to ensure compliance with issuing and quality requirements.

b. Naval Education and Training Command (NETC) will:

(1) act as the training agent for courses supporting the Boiler Water and Feedwater Test and Treatment Program.

(2) designate SWOSCOLCOM, Newport, Rhode Island as the curriculum control authority for courses supporting the U.S. Navy Boiler Water and Feedwater Test and Treatment Program.

c. SWOSCOLCOM, Newport, Rhode Island will:

(1) execute the course requirements per the approved training plans at all learning sites authorized to conduct boiler water and feedwater test and treatment training in support of the standards identified by the program life cycle engineering manager and the COMNAVSEASYSKOM boiler technical warrant holder. The Boiler Water and Feedwater Chelant Basic Certification Course (A-651-0019) is a prerequisite for the Boiler Water and

Feedwater Test and Treatment Chelant Supervisor Course (A-651-0116) for officers, senior petty officers, and oil kings. The Waste Heat Boiler Water and Feedwater Test and Treatment Certification Course (A-652-0188) provides a single course for supervisors and personnel who manage the waste heat boiler and feedwater program, or who test and treat the boiler water and feedwater.

(2) designate SWOSCOLCOM, Newport, Rhode Island, Director, Enlisted Engineering Training (SWOS N77) as course curriculum model manager for courses supporting the U.S. Navy Boiler Water and Feedwater Test and Treatment Program, and designate and propose additional learning sites authorized to conduct training per Naval Education Training (NAVEDTRA) 130B of 13 August 2009.

(3) develop and maintain an instructor certification plan per NAVEDTRA 135D of August 2018, and NETCINST 1500.5C of 18 October 2018. Incorporate Naval Surface Warfare Center, Philadelphia Division-developed job qualification requirements, per subparagraph 7a(3)(a).

(4) ensure all boiler water and feedwater instructors must have at a minimum 1 year of oil lab experience onboard a landing helicopter dock Wasp class or a landing command and control Blue Ridge class ship.

(5) coordinate in-service training with the life cycle engineering manager.

(6) conduct formal course reviews per NAVEDTRA 135D of August 2018.

(7) approve or disapprove waiver requests, submitted per subparagraph 7f(3), following NAVEDTRA 140A of January 2014.

d. The Naval Supply Systems Command (NAVSUPSYSCOM), as the designated logistic agent, will:

(1) maintain supply policy governing stocking, distributing, and controlling mission-critical boiler water and feedwater test and treatment equipment and chemicals for conventionally powered steam ships. In the event that these policies conflict with established inspection criteria, the COMNAVSEASYSYSCOM requirements of reference (a) take precedence.

(2) verify that supply activities, which stock or distribute boiler water and feedwater test and treatment equipment and chemicals, provide a continuous source of chemicals with shelf lives that have not expired in units of issue consistent with shipboard requirements, as defined in the coordinated shipboard allowance list.

(3) verify applicable quality control procedures are invoked in supply support procedures and procurement documents.

(4) conduct periodic audits of supply activities responsible for providing test and treatment chemicals to fleet units to ensure compliance with issuing and quality requirements.

e. Fleet commanders will:

(1) stress the importance of proper water chemistry maintenance to the fleet units and monitor fleet performance.

(2) verify that test, treatment, and management of boiler water and feedwater in conventional steam propulsion plants and ships that have waste heat boilers, are performed by certified personnel.

(3) establish monitoring procedures that ensure compliance with the policies of this instruction.

f. COs will:

(1) ensure and verify proper administration and execution of the U.S. Navy Boiler Water and Feedwater Test and Treatment Program within their command.

(2) ensure and verify that personnel who are responsible for the management and performance of the U.S. Navy Boiler Water and Feedwater Test and Treatment Program are qualified per the requirements in this instruction.

(3) submit, via chain of command, NETC 1500/8 Pre-Requisite Waiver Request to the curriculum control authority for consideration per NAVEDTRA 140A of January 2014.

8. Records Management

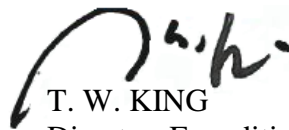
a. Records created as a result of this instruction, regardless of format or media, must be maintained and dispositioned per the records disposition schedules located on the Department of the Navy/Assistant for Administration, Directives and Records Management Division portal page at <https://portal.secnav.navy.mil/orgs/DUSNM/DONAA/DRM/Records-and-Information-Management/Approved%20Record%20Schedules/Forms/AllItems.aspx>.

b. For questions concerning the management of records related to this instruction or the records disposition schedules, please contact the local records manager or the Department of the Navy/Assistant for Administration, Directives and Records Management Division program office.

9. Review and Effective Date. Per OPNAVINST 5215.17A, the Director, Expeditionary Warfare (OPNAV N95) will review this instruction annually around the anniversary of its issuance date to ensure applicability, currency, and consistency with Federal, Department of

Defense, Secretary of the Navy, and Navy policy and statutory authority using OPNAV 5215/40 Review of Instruction. This instruction will be in effect for 10 years, unless revised or cancelled in the interim, and will be reissued by the 10-year anniversary date if it is still required, unless it meets one of the exceptions in OPNAVINST 5215.17A, paragraph 9. Otherwise, if the instruction is no longer required, it will be processed for cancellation as soon as the need for cancellation is known following the guidance in OPNAV Manual 5215.1 of May 2016.

10. Forms. NETC 1500/8 Pre-Requisite Waiver Request is available for download on Naval Forms Online from <https://forms.documentservices.dla.mil/order/>.



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Releasability and distribution:

This instruction is cleared for public release and is available electronically only via Department of the Navy issuances Web site, <https://www.secnav.navy.mil/doni/default.aspx>.